

CONTENTS:

Healthcare	1
Agriculture	2
Food	2
Chemicals, Petroleum and Natural Gas	2
Fiber, Apparel, Carpet and Textile	3
Pulp, Paper & Forest Products	4
Materials Fabrication	4
Materials Production	4
Municipal Water & Wastewater	5
New Communications Products Listing	5
Previously Announced Products Listing	6
Calendar of Events	7



August 1999

HEALTHCARE

PROJECT UPDATE

Benchmarking

The EPRI Healthcare (HCI) target has recently completed benchmarking hundreds of hospital facilities across the nation. By collecting pertinent energy data and comparing that data to similar healthcare facilities, a valuable tool has been made available to participating utility companies to assist their healthcare customers implement energy saving strategies and procedures. The data profiles review hospitals within given territories which coincide with participating utility territories. The data is confidential per territory and can only be released by request to participating utilities. For this reason, the profiles are available only by request and will not be distributed through the normal distribution channels within EPRI. If you are unsure of your utility's participation in this study or would like to request a copy of the Benchmarking Study done in your territory, please call Joel Bauch at the EPRI Healthcare office in White Plains, New York at 914-644-8358.

UPCOMING MEETINGS

HCI 2000+

An ad hoc meeting is being held in Chicago, Illinois September 9 & 10 to begin the discussion of HCI 2000+. This meeting is to be comprised of a select number of HCI member utilities whose selection was based on project involvement with HCI and their prolonged relationship in HCI. The purpose of this group is to discuss the changing environment of the utility industry and how those changes will impact healthcare

facility customers. It is the intention of this assembly to begin the brainstorming process of positioning HCI and its products and services for the year 2000 and beyond. Suggestions and recommendations that come out of this meeting will be presented formally to the entire HCI membership at our Fall EPRI Healthcare Conference being held October 13 & 14, 1999. If you have any questions regarding this meeting, please call Kelly Ciprian at 614-855-1390.

Fall EPRI Healthcare Conference

The Fall EPRI Healthcare Conference will be held October 13 & 14 in Charleston, South Carolina at The Mills House. The hotel is located at 115 Meeting Square, downtown Charleston. Room rates have been negotiated at \$134.00 per night beginning October 12 and extending through October 14. Contact the Mills House at 800-874-9600 to make your room reservations. The agenda for this conference is abbreviated, as there will not be a Customer Day held in conjunction with the conference. The two-day meeting will focus on pertinent target issues including discussion of the HCI 2000+: Laying the foundation for the future of HCI. Committees will meet collectively over the two-day period, again a departure from normal procedure, but made necessary due to the importance of informing all our members on issues and projects within each committee. This is a trial format and feedback will be instrumental in designing the conferences for the upcoming year. Please contact Kelly Ciprian at 614-855-1390 or email her at kciprian@epri.com for more information, to register for the conference, or regarding any other related questions.



AGRICULTURE

UPCOMING WORKSHOPS

Technology in Recirculating Aquaculture Production Workshop

Due to the overwhelming response to the first Workshop, Carolina Power & Light, EPRI and North Carolina State University are sponsoring a second Technology in Recirculating Aquaculture Production Workshop, August 20-21, 1999 at the CP&L/EPRI Fish Barn project site at North Carolina State University. The Fish Barn is a large scale commercial demonstration of intensive recirculating aquaculture technology and is designed to produce 100,000 lbs. of tilapia per year.

The one and one-half day workshop, held by the North Carolina Cooperative Extension Service Fish Barn Program, will cover topics including:

- An overview of construction activities, startup and activation of the system
- Operational procedures
- Technological considerations in designing recirculating systems
- A review of the CP&L/EPRI Fish Barn design

Registration fee of \$50.00 includes classroom sessions, a tour of the Fish Barn site and detailed on-site demonstrations of operational procedures. For more details, contact the EPRI Agricultural and Food Technology Office (ATA/FTA) through EPRI CAC.

Ozone Conference II; Pre- & Post-Harvest Applications Two Years after GRAS

September 27-28, 1999, the EPRI Agricultural Technology Alliance and Southern California Edison are sponsoring a one and one-half day Ozone Conference at the Edison AgTAC Facility in Tulare, California. A live video teleconference with FDA and USDA staff discussing regulators' views from inside the Beltway will be featured. Conference topics include research results, case studies, technological advances, controlled environment agriculture, safety and toxicology. Sessions on pre- and post-harvest applications will discuss ozone uses in air, soil and water. For additional information on fees, exhibit space and limited sponsorships, contact the EPRI Agricultural and Food Technology Office through EPRI CAC.

FOOD

MEETING WRAP-UP

Institute of Food Technologies National Meeting

The EPRI Food Technology Alliance exhibited at the 59th national meeting of the Institute of Food Technologies in Chicago, July 24-28, 1999. The Mobile Trailer Demonstration Unit model was displayed and ozone applications in food processing were featured in the exhibit booth. Numerous requests were made for additional EPRI Food Technology Alliance information on freeze concentration, ozone utilization and food process water treatment.

CHEMICALS, PETROLEUM AND NATURAL GAS

PROJECT UPDATE

Assessment of Common, Difficult Wastewater Management Problems

The following collaborative project idea was put forth by the EPRI Chemicals, Petroleum & Natural Gas Center (CPNG) at the July 14-15, 1999 Center for Waste Reduction Technologies (CWRT) meeting. The capabilities of the Wastewater Problems Solution Alliance (WPSA) could be used to identify technology approaches for the solution of common, difficult wastewater problems that various CWRT members have. CWRT members continue to consider difficult wastewater problems that they are faced with and compare their problems with other members. Similar problems can be identified to form the basis of one or more collaborative projects. For each potential collaborative project, initial free assessments can be made using the Alliance's survey form and possibly one day site surveys at various sites. If based on the Alliance's initial report/proposal, a group of CWRT members decides to pursue a specific collaborative project, a surrogate sample or a sample from the site best suited for slip stream demonstration testing could be sent to the Alliance's pilot facilities for pilot tests. After that first phase of the collaborative project, if the results look promising, the group of CWRT members could expand the collaboration to include larger scale slip stream demonstration testing at one or more of the collaborators' industrial sites. The idea is to get double collaborative leveraging by combining an EPRI Tailored Collaboration with one or more CWRT collaborative project(s). For more information contact Sam Woinsky at 281-419-1122 or at epripcpl@ix.netcom.com.



UPCOMING WORKSHOP

CWRT/EPRI Workshop: Water Management: Issues, Technologies and Solutions

Progress has been made in developing the agenda for this informative workshop to be held in St. Louis on November 9-10, 1999. All sessions will be recorded and a workshop proceedings will be issued on CD-ROM. The workshop will begin with the discussion of some key issues such as why is water management important, as well as examination of the regulatory and economic drivers and the Regional and European perspectives on the drivers. US and European chemical industry views on the issues will also be reviewed. Following a technology overview, several case histories of industry successes and failures will be examined, and the methodologies for implementing water management.

Abstracts for some of the key technology presentations are shown below:

3D cathode for heavy metals removal/recovery - Conventional techniques available for the treatment of process and waste waters containing metals have the general disadvantage of requiring other technology to meet process and effluent limits, and/or they produce a secondary effluent metal-bearing solution or mixed solid requiring further treatment. This limitation has been overcome for metal containing solutions using electrolytic technology. 3D porous cathode has >500 times greater effective surface area than 2D electrode of the same nominal size. This allows metal deposition at higher current efficiencies, lower current densities and higher deposition rates, and thus achieves lower final metal ion concentrations. The technologies have the capability to achieve discharge limits without further treatment and collect metals as elements ready for sale or reuse. The technologies use removable cartridges for ease of operations and maintenance, resulting in improved cost effectiveness and reduced life-cycle costs.

Electrodeionization (EDI) - Glegg E-Cell allows for high capacity, economic electrodeionization as an alternative to using anion and cation beds. The system has been used in a Huntsman Chemical ethylene plant for boiler feed water treatment, as well as many other commercial applications.

Freeze concentration/crystallization - Freeze concentration, the name typically referring to the crystallization and separation of ice from aqueous solutions, is emerging as a new unit operation for the recovery of water from RCRA hazardous waste streams. Typical streams are high in water content and contain soluble components that pose risks for humans and are harmful for typical bio-treatment systems. This paper will describe the techniques in use today for treatment of this type of aqueous

waste and provide an in-depth review of freeze concentration and its potential in this sector of wastewater treatment.

Cooling water conservation (advanced distillation) - Conventional distillation processes consume more than a quadrillion (10^{15}) BTUs of energy per year in the United States. Cooling water is primarily used to absorb this energy with evaporative losses of more than a trillion (10^{12}) pounds per year. Recently developed distillation configurations may be used to make significant reductions in distillation energy consumption, with associated cooling water reductions, for virtually any conventional distillation process. Potential cooling water savings, with utility and capital cost implications, will be presented for typical petrochemical, gas processing and refining processes.

Key technology presentations will also include *Microwave emulsion-breaking* and *Zenogen biotreatment system*.

For more information on attending this workshop or the Chemicals and Petroleum Steering Committee Meeting being held on November 11-12, 1999, please contact Sam Woinsky at 281-419-1122 or epripcpl@ix.netcom.com.

Hotel information for the CWRT/EPRI Workshop and the Chemicals & Petroleum Steering Committee Meeting

Hotel information is now available for the CWRT/EPRI Workshop on November 9-10 as well as the Chemicals and Petroleum Steering Committee Meeting being held on November 11-12, 1999, both in St. Louis, MO. The Hilton (St. Louis Frontenac), located at 1335 South Lindbergh Blvd., St. Louis, MO 63131, is offering an EPRI rate of \$99 for a single/double occupancy room until October 14th. Please make your room reservations by calling the hotel at 314-993-1100.

FIBER, APPAREL, CARPET AND TEXTILE

UPCOMING MEETING

FACT Office Advisory Meeting

The EPRI Fiber, Apparel, Carpet and Textile Office (FACTO) Advisory Committee Meeting is being held on September 14, 1999 in Raleigh, NC. The agenda and the hotel information is available by contacting Ed Fouche at 919-515-7550 or efouche@epri.com.



PULP, PAPER AND FOREST PRODUCTS

UPCOMING MEETING

Fall Advisory Council Meeting

The Fall Advisory Council Meeting for the EPRI Pulp, Paper & Forest Products Office (PPFPO) will be held October 11-12, 1999, at the EPRI Nondestructive Evaluation Training Center (NDE) in Charlotte, North Carolina.

In addition to the regular PPFPO Advisory Council meeting, a conference on NDE and Welding & Repair technologies will be given. All attendees will also receive a tour of the NDE facilities.

The fee for the conference is \$150 for target members and their customers. The fee for non-members is \$325. There is no cost for members of the Advisory Council. All target members are welcome to send additional representatives, and members are encouraged to bring their customers. The topic of this conference will be especially informative for people who are involved in maintenance and plant engineering. To receive more information or a copy of the meeting agenda, please contact Mark Snyder at mark.snyder@ipst.edu or through EPRI CAC.

MATERIALS FABRICATION

PROJECT UPDATES

Cost Comparison Model - Preheating for Forging and Extrusion

With the success of the cost comparison model for heat treating, the EPRI Center for Materials Fabrication (CMF) is developing a tool for preheating for forging and extrusion that will estimate energy and operating costs for preheating metals, prior to forging or extrusion. The model will consider three basic part shapes, and will compare three types of traditional gas convection and direct electric resistance furnaces to induction heating methods. This model will also project savings in production and material loss. Identification of the required input factors has been completed, as has the actual data for the testing model. Programming has begun, with an expected availability date of late September.

Cost Comparison Model - UV Coatings for Printing

Utility representatives will soon have at hand a software program that can be used to assist printing customers who use web offset or flexo printing. This latest cost comparison model enables printing customers to compare E-Beam, ultraviolet (UV) and Thermal Drying for web offset printing, and UV and Thermal Drying for flexo printing. Users will be able to compare important economic parameters such as cost of labor, inks, coatings, energy, space, insurance; waste factor and permit requirements. It is anticipated that UV Coatings for Printing Cost Comparison Model will be available in late 4th quarter. For additional information please contact Sal Lovano, CMF, 216-226-3470; slovano@tarateccorp.com.

CENTER ACTIVITIES

We re Moving

As of August 20th, EPRI CMF has moved to our new offices at 1251 Dublin Road, Columbus, Ohio 43215.

Our telephone number, 614-421-3440, fax number, 614-421-3446, and email addresses remain the same.

MATERIALS PRODUCTION

CENTER ACTIVITIES

New Director Named

William D. (Bill) Munk has been named Director of the EPRI Center for Materials Production (CMP). Bill joins CMP after a long career in the energy industry at Columbia Energy where he held positions in R&D, Marketing Development, and Marketing, spending most of his time on the industrial side of the business. Bill is located in Columbus, Ohio. The CMP office will remain in Pittsburgh and is staffed by Ken Brickner, CMP Project Manager, and Donna Hunter, support staff. Bill, Ken and Donna are eager to assist you in your materials production activities.

Bill Munk
EPRI CMP
1251 Dublin Road
Columbus, OH
Phone: 614-225-2590
Fax: 614-291-2867

Ken Brickner and Donna Hunter
EPRI CMP
Parkway Center East, Bldg. III
2020 Ardmore Blvd, Room 335
Pittsburgh, PA 15221
Phone: 412-351-4060
Fax: 412- 351-4207



MUNICIPAL WATER & WASTEWATER

PROJECT UPDATE

Ozone Injection into a Water Supply System

Under a previous EPRI study, the Municipal Water and Wastewater (MWW) Program successfully completed an Ozone Demand-Decay Study for the White Plains Water Supply System. This study determined the correct sizing of future Ozonation Equipment. As a follow up, the MWW Program is now involved in a three phased full-scale feasibility study of the use of ozone as disinfectant for the White Plains Water Supply System. The first phase studied the feasibility of injecting ozone directly into the water supply system. Initial economic calculations taking into consideration the water supply system arrangement and available contact time, lead to the comparison of three methods of injecting ozone into a pressurized main. This study concluded that injecting ozone into a pressurized main through a pumped sidestream injection layout is economically feasible. The remainder of this work will address the arrangement of the ozonation facilities and injection units, the ozone demand-decay issues, and develop a profile and layout of the system. A conceptual design of the ozone facilities will be prepared for full-scale consideration. This feasibility study is a collaborative effort that will have directly supported a municipality in introducing ozone as an alternative disinfectant to its water supply system.

UPCOMING MEETING

Municipal Water & Wastewater Program Meeting

The next meeting of the MWW Program will be held at the Westin Hermitage Hotel in downtown Nashville, Tennessee on October 21 and 22. Technical Subcommittees, Advisory Committee, and Steering Committee will all meet. The Tennessee Valley Authority will be holding a special workshop and tour on Decentralized Systems on October 20. If you would like more information, please call Kim Shilling at 314-935- 8590.

CENTER ACTIVITIES

American Academy of Environmental Engineers President Elected

Keith Carns, Director of the EPRI Municipal Water and Wastewater Program, has been elected as the next president of the American Academy of Environmental Engineers (AAEE). Keith has managed the EPRI MWW Program for the past seven years and is well recognized in the water and wastewater industry. AAEE is a professional organization providing leadership in advancing the practice of environmental engineering in industry. Keith's leadership in AAEE shows EPRI's commitment in linking many specialties and organizations together to solving environmental issues important to industry.

COMMUNICATIONS PRODUCTS

INSTRUCTIONS FOR VIEWING ALL HYPERLINKED COMMUNICATIONS PRODUCTS

The communications products listed below are available on-line. Just click your mouse on any of the products listed to access the publications on EPRIweb. Follow EPRIweb instructions for printing, ordering and downloading the products of your choice.

NEW COMMUNICATIONS PRODUCTS		
OI#	TITLE	DIST. DATE
Food		
NL-113537	Food Industry Currents - August 1999, Volume 3, Number 4	Aug-99
Fiber, Apparel, Carpet and Textiles		
PO-113042	Uniformly Pre-Drying Tubular Knits with Microwave Energy	Jun-99
Materials Fabrication		
CR-108584	Assessing The Performance of Powder Coating Curing Systems	Jul-99
PO-113161	Hybrid Dual-Fuel Industrial Heating Systems	Jun-99
TR-112968	IR Market Study	Jul-99
Municipal Water and Wastewater		
TR-112644	The Desalting and Water Treatment Membrane Manual: A Guide to Membranes for Municipal Water Treatment (2nd Edition)	Aug-99

FOR ADDITIONAL INFORMATION CALL U.S. & CANADA 800-313-3774 (EXT. 4) • INTERNATIONAL 650-855-2121 (EXT. 4)



PREVIOUSLY ANNOUNCED PRODUCTS NOW ON-LINE		
OI#	TITLE	DIST. DATE
Healthcare		
CR-105378	Evaluation and Testing of Electron Beam Processing of Medical Waste: EPRI's Community Environmental Center	May-95
Chemicals, Petroleum and Natural Gas		
CR-105878	Electric Motors for Gas Pipeline Compressors, Volume 2: Energy Efficiency Advantages	Nov-95
CR-106044	Worksheet to Assess Cogeneration Options for Small Industrial Customers	Dec-95
CR-109743	Gas/Electric Industry Convergence Opportunities	Dec-97
Pulp, Paper and Forest Products		
CR-106540	Paper Recycling: Impact on Electricity Use, Electro-technology Opportunities	Apr-96
TR-102667	Pulp and Paper Mill Effluent Treatment Using Advanced Oxidation Processes	Jul-93
Materials Fabrication		
CR-108584	Assessing the Performance of Powder Coating Curing Systems: A Review of Available Information	Apr-93
Materials Production		
CR-103101	Mine Transportation Selection Model	Sep-93
CR-103774	Infrared Assisted Drying of Foundry Mold Wash Coatings	Jan-94
CR-103775	Proceedings of the CMP Electric Arc Furnace Dust Treatment Symposium IV: A Summary of the Technical Presentations and Panel Discussion from the January 25, 1994 Symposium	Feb-94
CR-103872	Microwave Separation of Oil-Water Sludges I: Application to Industrial Waste Sludges: CMP Report No. 94-3	Mar-94
CR-104950	Review of Ironmaking Technologies and Potential for Power Generation	Feb-95
CR-105736	Microwave Separation of Oil-Water Sludges II: Application to Polymer-Treated Sludges: Evaluation of a Microwave-Assisted Process to De-Oil Steel Mill Wastewater Treatment Plant Sludges Containing Polymers and Additives	Oct-95
CR-105848	Energy Analysis of the High-Pressure Roll Mill	Oct-95
CR-108121	Electric Arc Furnace: Gaseous and Particulate Emissions: A Review of Available Information Concerning the Causes, Measurements, Regulations, and Control Methods Currently Available for Gaseous and Particulate Emissions from the Electric Arc Furnace (EAF)	Apr-97
CR-108638	Adjustable-Speed Drives for Electric Arc Furnace Air Pollution Control Systems	Dec-91
CR-109362	Mine Transportation Selection Model	Dec-97
Municipal Water and Wastewater		
BR-100426	Ozonation of Cooling Tower Water	Aug-92
CR-102486	B-Cormix: Brine Expersion in Ocean	Jun-94
CR-102517	Inland Brine Disposal	Jun-94
CR-106277	Ozone System Energy Optimization Handbook: Phase I Report--Development of a Standardized Protocol for Assessing Drinking Water Plant Ozone System Optimization	Mar-96
CR-106373	Review of Dissolved Oxygen Monitoring Equipment	Apr-96
CR-107838	Quality Energy Efficiency Retrofits for Water Systems: A Guide to Implementing Energy Efficiency Upgrades in Water Supply Facilities	Jun-97

FOR ADDITIONAL INFORMATION CALL U.S. & CANADA 800-313-3774 (EXT. 4) • INTERNATIONAL 650-855-2121 (EXT. 4)



EPRI INDUSTRIAL AND AGRICULTURAL TECHNOLOGIES & SERVICES

BUSINESS SUMMARY:

Responding to the needs of EPRI members and their customers, activities focus on being the Business Partner of our members by delivering products and services that provide competitive advantages in the marketplace:

- ▶ Supporting Customer Retention and Competitiveness
- ▶ Growing Electricity Market Share
- ▶ Offering New Business Opportunities
- ▶ Increasing Customer Value of Electricity
- ▶ Providing Customers with Energy Solutions

EPRI Customer Assistance Center

771 Dearborn Park Lane, Suite P

Worthington, Ohio 43085-5720

800-313-3774 (ext. 4) & fax: 800-832-9267

International 650-855-2121 (ext. 4) & fax: 614-846-7306

Email: askepri@epri.com

1999 EPRI INDUSTRIAL CALENDAR OF EVENTS

Aug 20-21	ATA Aquaculture Training Course	Raleigh, NC
Aug 22-26	14th Ozone World Congress	Dearborn, MI
Aug 29-31	MWW Program/WaterWorld Energy Efficiency Conference	San Diego, CA
Sep 6-10	Integrated Global Water Management Conference	Prague, Republic of CZ
Sep 13-14	Fiber, Apparel, Carpet and Textile Office Advisory Meeting	Raleigh, NC
Sep 27-28	ATA Ozone Conference II: Pre and Post Harvest Applications	Tulare, CA
Sep 30-Oct 1	Client Relations Council Meeting	Nashville, TN
Oct 4-6	1999 Gas Machinery Conference & Exhibition	Houston, TX
Oct 4-8	Retail Advisory Meeting	Vancouver, CANADA
Oct 5-6	Fall Industrial & Agricultural Business Advisory Council Meeting	Vancouver, CANADA
Oct 11-12	Pulp, Paper & Forest Products Advisory Board Meeting & Seminar	Charlotte, NC
Oct 11-13	Agriculture & Food Technology Alliances Joint Fall Meeting	Minneapolis, MN
Oct 13-14	Fall Healthcare Initiative Conference	Charleston, SC
Oct 20-21	Research Advisory Committee (RAC)	La Jolla, CA
Oct 20	Water & Energy Conference	Nashville, TN
Oct 21-22	Municipal Water & Wastewater Program Meeting	Nashville, TN
Oct 26-27	Chemicals & Petroleum Gas / Electric Partnership Workshop	Houston, TX
Oct 25-26	Materials Fabrication Advisory Council Meeting	Philadelphia, PA
Oct 27-28	Materials Production Advisory Council Meeting	Philadelphia, PA
Oct 28-31	Worldwide Food Expo '99	Chicago, IL
Nov 7-11	International Forum on Electrolysis in the Chemical Industry	Clearwater Beach, FL
Nov 9-10	CWRT/EPRI Water Mgmt. Workshop: Issues, Technologies & Solutions	St. Louis, MO
Nov 11-12	Chemicals & Petroleum Steering Committee Meeting	St. Louis, MO
Nov 16-17	Board of Directors Meeting	San Antonio, TX

*Calendar items in **bold** have been revised or added since last month's Calendar of Events*

EPRI 3412 Hillview Avenue, Palo Alto, California 94304 USA PO Box 10412, Palo Alto, California 94303 USA
800.313.3774 fax 650.855.2121 askepri@epri.com www.epri.com

FOR ADDITIONAL INFORMATION CALL U.S. & CANADA 800-313-3774 (EXT. 4) • INTERNATIONAL 650-855-2121 (EXT. 4)